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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AUDREY A. SHERMAN, MICHAEL A. MEIS,
KEVIN R. SCHAFFER, MARIE A. BOULOS,
SOEMANTRI WIDAGDO, THU-VAN T. TRAN,
ELLEN O. AELING, PATRICK J. YESHE, and
WENDI J. WINKLER

Appeal 2016-000143
Application 13/003,208
Technology Center 2800

Before ADRIENE LEPIANE HANLON, CATHERINE Q. TIMM, and
JAMES C. HOUSEL, *Administrative Patent Judges*.

PER CURIAM.

DECISION ON APPEAL¹

Appellants² filed an appeal under 35 U.S.C. § 134(a) from the Examiner's decision finally rejecting claims 8–21, 23–26, 28–33, 37, and 39–44. We have jurisdiction under 35 U.S.C. § 6(b).

¹ Our decision refers to Appellants' Specification (Spec.) filed January 7, 2011, the Final Office Action (Final Act.) delivered October 9, 2014, Appellants' Appeal Brief (Appeal Br.) filed March 9, 2015, the Examiner's Answer (Ans.) delivered July 23, 2015, and Appellants' Reply Brief (Reply Br.) filed September 23, 2015.

² Appellants identify the real party in interest as 3M Company and 3M Innovative Properties Company. Appeal Br. 2.

We AFFIRM.

STATEMENT OF THE CASE

The subject matter on appeal relates to optical devices (*see, e.g.*, claims 8 and 29). Appellants disclose that lightguides are used to distribute light over an area much larger than the area of a light source. Spec. 1:9–10. Appellants disclose an optical device including a light source and a viscoelastic lightguide. *Id.* at 1:19–20. Because the lightguide is viscoelastic, which is soft and compliant, an extractor used to extract light from the viscoelastic lightguide may be easily coupled to the lightguide. *Id.* at 3:10–13. Appellants disclose the lightguide may comprise a pressure sensitive adhesive (PSA), which permits the extractor to be directly adhered to the lightguide without additional materials to bond the two components together. *Id.* at 1:21–22; 3:13–15.

Independent claim 8, reproduced below from the Claims Appendix to the Appeal Brief, is illustrative of the subject matter on appeal. The limitation at issue is italicized.

8. An optical device comprising a light source and an optical article, the optical article comprising a viscoelastic lightguide disposed on a substrate, wherein light emitted by the light source enters the viscoelastic lightguide and is transported within the lightguide by total internal reflection; *wherein the viscoelastic lightguide comprises a pressure sensitive adhesive.*

Appeal Br. 6.

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as follows:

- A. claims 8–18, 20, 21, 23–25, 28–33, 37, and 39–44 under 35 U.S.C. § 103(a) as unpatentable over Cunningham³ in view of Lamb;⁴
- B. claim 19 under 35 U.S.C. § 103(a) as unpatentable over Cunningham and Lamb, and further in view of Righettini;⁵ and
- C. claim 26 under 35 U.S.C. § 103(a) as unpatentable over Cunningham and Lamb, and further in view of Smith.⁶

ANALYSIS

Rejection A over Cunningham and Lamb

Claims 8–18, 20, 21, 23–25, 28–33, 37, and 39–44 are rejected under 35 U.S.C. § 103(a) as unpatentable over Cunningham in view of Lamb. We select claim 8 as representative for discussing the issues on appeal.

The Examiner finds Cunningham discloses an optical device including a light source and an optical article. Final Act. 2. The Examiner finds the optical article of Cunningham is a viscoelastic lightguide disposed on a substrate. *Id.* To support the finding of Cunningham disclosing a viscoelastic lightguide, the Examiner cites paragraph 23 of Cunningham, which discusses “a flexible material such as a polymer film or acrylic, silicone and urethane resins” as suitable materials for a lightguide. *Id.*

³ Cunningham et al., US 2007/0243844 A1, published October 18, 2007 (“Cunningham”).

⁴ Lamb et al., US 2005/0135117 A1, published June 23, 2005 (“Lamb”).

⁵ Righettini et al., US 6,660,805 B1, issued December 9, 2003 (“Righettini”).

⁶ Smith et al., US 6,280,822 B1, issued August 28, 2001 (“Smith”).

Appellants do not contest the Examiner's finding that the lightguide of Cunningham is a viscoelastic lightguide. Appeal Br. 3–4.

The Examiner finds the lightguide of Cunningham has adhesive characteristics, citing paragraph 25 of Cunningham. Final Act. 2–3. However, the Examiner finds Cunningham does not disclose the lightguide comprises a pressure sensitive adhesive. *Id.* at 3.

The Examiner finds Lamb discloses a display in which a pressure sensitive adhesive is used to adhere optical members or sheets together and the pressure sensitive adhesive facilitates the extraction of light. *Id.* The Examiner concludes it would have been obvious to use a pressure sensitive layer in the device of Cunningham or to configure the lightguide of Cunningham to include a pressure sensitive adhesive for the purpose of extracting light from the lightguide. *Id.*

Appellants contend claim 8 recites, among other things, a viscoelastic lightguide that includes a pressure sensitive adhesive, not a lightguide that is “simply stuck to another component via pressure sensitive adhesive.” Appeal Br. 3. Appellants assert claim 8 requires “incorporating or including a PSA in the lightguide itself” (emphasis omitted) and the language “‘viscoelastic lightguide comprises a pressure sensitive adhesive’ means that the lightguide itself is formed from a pressure sensitive adhesive, and does not refer to a separate layer of a pressure sensitive adhesive on the lightguide.” Appeal Br. 3; Reply Br. 3. To support these interpretations of claim 8, Appellants cite pages 18, 19, and 47 of the Specification. Reply Br. 3–4.

As an initial matter central to our discussion of the issue before us, we must construe the language of claim 8, “wherein the viscoelastic lightguide comprises a pressure sensitive adhesive.” During prosecution before the examiner, the claim language should be given its broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account any definitions or enlightenment contained in the written description of appellants’ specification. *In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc).

The first portion of the Specification cited by Appellants to support their interpretation is page 18, lines 6–8, which states “[t]he viscoelastic lightguide may have properties that facilitate sufficient contact or wetting with at least a portion of a substrate such that the viscoelastic lightguide and the substrate are optically coupled.” The next citation, page 18, lines 28–30, of the Specification, states “[i]n some embodiments, the viscoelastic lightguide comprises a PSA layer as described in the Dalquist criterion line (as described in Handbook of Pressure Sensitive Adhesive Technology, Second Ed., D. Satas, ed., Van Nostrand Reinhold, New York, 1989.)” The last citation, page 47, line 29, to page 48, line 3, of the Specification, discloses an example in which an optical article “may comprise a clear acrylic PSA as the viscoelastic lightguide” while a first substrate has a silicone pressure sensitive adhesive. Appellants further argue the optical articles of Figures 14–16 of Appellants’ disclosure adhere viscoelastic

lightguides to one or more substrates without any intervening pressure sensitive adhesive layers. Reply Br. 4.

Appellants' citations demonstrate support in the Specification for a viscoelastic lightguide that "may have properties that facilitate sufficient contact or wetting" with a substrate,⁷ a viscoelastic lightguide that "comprises a PSA layer,"⁸ and a viscoelastic lightguide that "may comprise a clear acrylic PSA."⁹ Appellants' Specification also describes embodiments in which the substrate includes the pressure sensitive adhesive. Spec. 39:29 to 40:3.

We turn to the plain meaning of the language "comprises." "In the patent claim context the term 'comprising' is well understood to mean 'including but not limited to.'" *CIAS, Inc. v. Alliance Gaming Corp.*, 504 F.3d 1356, 1360 (Fed. Cir. 2007). We therefore interpret the language "wherein the viscoelastic lightguide comprises a pressure sensitive adhesive" of claim 8 as reciting a viscoelastic lightguide that includes a pressure sensitive adhesive. Therefore, claim 8 encompasses a pressure sensitive adhesive that is included in or incorporated in a lightguide as well as a pressure sensitive adhesive that is a separate layer attached to a substrate such that the entire assembly is a lightguide.

Turning to the § 103(a) rejection of claim 8 over Cunningham and Lamb, Appellants assert the applied references disclose using a pressure sensitive adhesive to adhere a lightguide to another component but claim 8 requires "incorporating or including a PSA in the lightguide itself"

⁷ Spec. 18:6–8.

⁸ Spec. 18:27–30.

⁹ *Id.* at 47:29 to 48:3.

(emphasis omitted). Appeal Br. 3. Appellants further argue Cunningham and Lamb do not suggest “the incorporation of such a PSA into the lightguide itself” (emphasis omitted). *Id.* at 3–4.

Appellants’ arguments are not persuasive. As noted above, we interpret claim 8 to require a viscoelastic lightguide that includes a pressure sensitive adhesive. The Examiner finds Cunningham discloses a viscoelastic lightguide comprising adhesive characteristics. Final Act. 2–3. Paragraph 25 of Cunningham states “[t]he illumination layer 110 may be formed from (or include one or more materials having adhesive characteristics for bonding with the circuitry layer 115 and/or mating with the outer cover 105.” Thus, the disclosure of Cunningham supports the Examiner’s finding by disclosing a lightguide 110 that may be formed from a material having adhesive characteristics.

The Examiner finds Lamb discloses using a pressure sensitive adhesive to adhere optical members together in a display. Final Act. 3. Lamb discloses using a layer of a pressure sensitive adhesive to attach a Dual Brightness Enhancement Film (DBEF) to a surface of a lightguide to facilitate extraction of light from the lightguide. Lamb ¶¶ 35, 37.

Appellants’ arguments that the pressure sensitive adhesive of Lamb is a separate layer that is not part of a lightguide¹⁰ and that Lamb’s pressure sensitive adhesive teaches away from its combination with a lightguide¹¹ do not address the Examiner’s rejection and what the combination of Cunningham and Lamb would have suggested to one of ordinary skill in the art. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (“The test for

¹⁰ Appeal Br. 4; Reply Br. 6–7.

¹¹ Appeal Br. 3–4.

obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference. . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” (citations omitted)). Here the combination of Cunningham, which discloses a lightguide that can be formed from an adhesive material, and Lamb, which discloses the use of a pressure sensitive adhesive to join a lightguide to a film, would have suggested a lightguide formed from a pressure sensitive adhesive as, for example, a layer of pressure sensitive adhesive to provide the lightguide of Cunningham with the adhesive characteristics disclosed as advantageous in both Cunningham and Lamb. In that regard, Lamb discloses that a pressure sensitive adhesive facilitates extraction of light from a lightguide. Lamb ¶ 37.

Appellants’ arguments do not demonstrate a reversible error in the Examiner’s rejection or otherwise show that one of ordinary skill in the art could not have included a pressure sensitive material (e.g., a layer of pressure sensitive adhesive) in the lightguide of Cunningham, such as a material to provide the lightguide with adhesive characteristics.

Appellants do not present any arguments in support of the separate patentability of claims 9–18, 20, 21, 23–25, 28–33, 37. Appeal Br. 4. Therefore, for the reasons set forth above, and for those expressed in the Examiner’s Answer, the § 103(a) rejection of claims 8–18, 20, 21, 23–25, 28–33, 37, and 39–44 over Cunningham and Lamb is sustained.

*Rejection over Cunningham, Lamb, and Righettini and Rejection over
Cunningham, Lamb, and Smith*

Claim 19 is rejected under 35 U.S.C. § 103(a) as unpatentable over Cunningham and Lamb, and further in view of Righettini. Claim 26 is rejected under 35 U.S.C. § 103(a) as unpatentable over Cunningham and Lamb, and further in view of Smith. For these rejections, Appellants states each of claims 19 and 26 depend from claim 8 and each of Righettini and Smith are not cited to cure the deficiencies present in the rejection over Cunningham and Lamb. Appeal Br. 4. For the reasons set forth above, there are no deficiencies in the rejection of claim 8 that require curing by Righettini or Smith. Therefore, we sustain the § 103 rejections of claims 19 and 26.

DECISION

On the record before us and for the reasons given in the Answer and above, the Examiner's decision is *affirmed*.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

AFFIRMED